

## 1 Identification

- **Product identifier**
- **Trade name:** Phenol, Ultra Pure
- **Article number:** 800673
- **CAS Number:**  
108-95-2
- **EC number:**  
203-632-7
- **Index number:**  
604-001-00-2
- **Molecular Formula**  $C_6H_6O$
- **Molecular Weight** 94.11 g/mol
- **Application of the substance / the mixture** Research use only.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
MP Biomedicals, LLC  
29525 Fountain Parkway  
Solon, OH 44139  
United States  
www.mpbio.com
- **Information department:** Product safety department
- **Emergency telephone number:** CHEMTREC: 1-800-424-9300 (1-703-527-3887)

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Toxicity (Oral) - Category 3

H301 Toxic if swallowed.

Acute Toxicity (Dermal) - Category 3

H311 Toxic in contact with skin.

Acute Toxicity (Inhalation) - Category 3

H331 Toxic if inhaled.



GHS08 Health hazard

Germ Cell Mutagenicity - Category 2

H341 Suspected of causing genetic defects.

Specific Target Organ Toxicity - Repeated Exposure - Category 2

H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Skin Corrosion - Category 1B

H314 Causes severe skin burns and eye damage.

- **Label elements**

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05



GHS06



GHS08

- **Signal word** Danger

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· **Hazard statements**

- Toxic if swallowed, in contact with skin or if inhaled.
- Causes severe skin burns and eye damage.
- Suspected of causing genetic defects.
- May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Specific measures (see on this label).
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- Call a POISON CENTER/doctor if you feel unwell.
- Wash contaminated clothing before reuse.
- IF exposed or concerned: Get medical advice/attention.
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- Get medical advice/attention if you feel unwell.
- Store locked up.
- Store in a well-ventilated place. Keep container tightly closed.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Hazard description:**

· **WHMIS-symbols:**

- D1A - Very toxic material causing immediate and serious toxic effects
- D2A - Very toxic material causing other toxic effects
- E - Corrosive material



· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**

HEALTH	*3	Health = *3
FIRE	2	Fire = 2
REACTIVITY	0	Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
108-95-2 Phenol
- **Identification number(s)**
- **EC number:** 203-632-7
- **Index number:** 604-001-00-2

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.  
Remove breathing apparatus only after contaminated clothing have been completely removed.  
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**  
Supply fresh air or oxygen; call for doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Do not induce vomiting; immediately call for medical help.  
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
In case of seepage into the ground inform responsible authorities.  
In case of gas release or seepage into the ground inform responsible authorities.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.

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- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Thorough dedusting.  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** 2 - 8 °C
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Protect from exposure to the light.  
Store in nitrogen.  
Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

### 108-95-2 Phenol

EL	Long-term value: 5 ppm Skin
EV	Long-term value: 19 mg/m <sup>3</sup> , 5 ppm Skin

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Solid material

Color: Colorless

· **Odor:** Characteristic

· **Odor threshold:** Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range: 37-44 °C

Boiling point/Boiling range: 182 °C

· **Flash point:** 79 °C

· **Flammability (solid, gaseous):** Product is not flammable.

· **Ignition temperature:** 715 °C

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower: 1.3 Vol %

Upper: 9.5 Vol %

· **Vapor pressure at 55 °C:** 6.3 hPa

· **Density at 20 °C:** 1.071 g/cm<sup>3</sup>

· **Relative density** Not determined.

· **Vapor density** Not applicable.

· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with** -

· **Water at 20 °C:** 84 g/l

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic: Not applicable.

Kinematic: Not applicable.

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· **Other information** No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

Oral	LD50	317 mg/kg (rat)
Dermal	LD50	630 mg/kg (rabbit)

- **Primary irritant effect:**
  - **on the skin:** Caustic effect on skin and mucous membranes.
  - **on the eye:** Strong caustic effect.
  - **Sensitization:** No sensitizing effects known.
  - **Additional toxicological information:**  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
  - **Carcinogenic categories**
  - **IARC (International Agency for Research on Cancer)**
- |          |        |   |
|----------|--------|---|
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|----------|--------|---|
- **NTP (National Toxicology Program)** Substance is not listed.
  - **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

## 12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

Oral	LC50 / 96 h	36.1 - 68.8 mg/L (Carassius auratus)
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- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (Assessment by list): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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· **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

· **UN-Number**  
· **DOT, TDG, IMDG, IATA** UN1671

· **UN proper shipping name**  
· **DOT, IATA** Phenol, solid  
· **TDG** 1671 Phenol, solid  
· **IMDG** PHENOL, SOLID

· **Transport hazard class(es)**  
· **DOT**



· **Class** 6.1 Toxic substances  
· **Label** 6.1  
· **TDG, IMDG, IATA**



· **Class** 6.1 Toxic substances  
· **Label** 6.1

· **Packing group**  
· **DOT, TDG, IMDG, IATA** II

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Toxic substances  
· **Danger code (Kemler):** 60  
· **EMS Number:** 6.1-04  
· **Stowage Category** A

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT**  
· **Quantity limitations** On passenger aircraft/rail: 25 kg  
On cargo aircraft only: 100 kg  
· **Hazardous substance:** 7414 lbs, 7906 kg

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- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>· <b>TDG</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>  | <ul style="list-style-type: none"> <li>Code: E4</li> <li>Maximum net quantity per inner packaging: 1 g</li> <li>Maximum net quantity per outer packaging: 500 g</li> </ul>                |
| <ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul> | <ul style="list-style-type: none"> <li>500 g</li> <li>Code: E4</li> <li>Maximum net quantity per inner packaging: 1 g</li> <li>Maximum net quantity per outer packaging: 500 g</li> </ul> |
| <ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>  | <ul style="list-style-type: none"> <li>UN 1671 PHENOL, SOLID, 6.1, II</li> </ul>  |

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**
- **Section 355 (extremely hazardous substances):** Substance is listed.
- **Section 313 (Specific toxic chemical listings):** Substance is listed.
- **TSCA (Toxic Substances Control Act):** Substance is listed.
- **Proposition 65**
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

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- **TLV (Threshold Limit Value established by ACGIH)**

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- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **Canadian substance listings:**
- **Canadian Domestic Substances List (DSL)** Substance is listed.
- **Canadian Ingredient Disclosure list (limit 0.1%)** Substance is not listed.
- **Canadian Ingredient Disclosure list (limit 1%)** Substance is listed.
- **GHS label elements**
- The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05    GHS06    GHS08

- **Signal word** *Danger*
- **Hazard statements**
- Toxic if swallowed, in contact with skin or if inhaled.*
- Causes severe skin burns and eye damage.*
- Suspected of causing genetic defects.*
- May cause damage to organs through prolonged or repeated exposure.*
- **Precautionary statements**
- Do not breathe dust/fume/gas/mist/vapours/spray.*
- Wear protective gloves/protective clothing/eye protection/face protection.*
- Wash thoroughly after handling.*
- Do not eat, drink or smoke when using this product.*

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*Use only outdoors or in a well-ventilated area.*

*Obtain special instructions before use.*

*Do not handle until all safety precautions have been read and understood.*

*IF SWALLOWED: Immediately call a POISON CENTER/ doctor.*

*IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*

*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*

*Specific measures (see on this label).*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*Call a POISON CENTER/doctor if you feel unwell.*

*Wash contaminated clothing before reuse.*

*IF exposed or concerned: Get medical advice/attention.*

*IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.*

*Get medical advice/attention if you feel unwell.*

*Store locked up.*

*Store in a well-ventilated place. Keep container tightly closed.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

*· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.*

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

*· **Department issuing MSDS:** Product safety department*

*· **Date of preparation / last revision** 12/16/2015 / -*

*· **Abbreviations and acronyms:***

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*WHMIS: Workplace Hazardous Materials Information System (Canada)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*NIOSH: National Institute for Occupational Safety*

*OSHA: Occupational Safety & Health*

*Acute Toxicity (Oral) - Category 3: Acute toxicity, Hazard Category 3*

*Skin Corrosion - Category 1B: Skin corrosion/irritation, Hazard Category 1B*

*Germ Cell Mutagenicity - Category 2: Germ cell mutagenicity, Hazard Category 2*

*Specific Target Organ Toxicity - Repeated Exposure - Category 2: Specific target organ toxicity - Repeated exposure, Hazard Category*

*2*